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AGRICULTURAL MARKETING



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Cover

Our cover page and the photos on pages 8 and 9 come from the Exhibit on Moving Surpluses and Expanding Markets which was shown at the U. S. Department of Agriculture during May and June. The cover calls attention to the export story because it is of special interest. U. S. farm exports have risen to the highest level in history. In the past fiscal year the value of our farm exports totaled about \$4,500,000,000—almost \$1,000,000,000 more than in 1955-56. It was the fourth successive year of increasing farm exports. This, of course, is only part of the story of moving surpluses and expanding markets. Material on the whole story can be obtained from the Office of Information, USDA.

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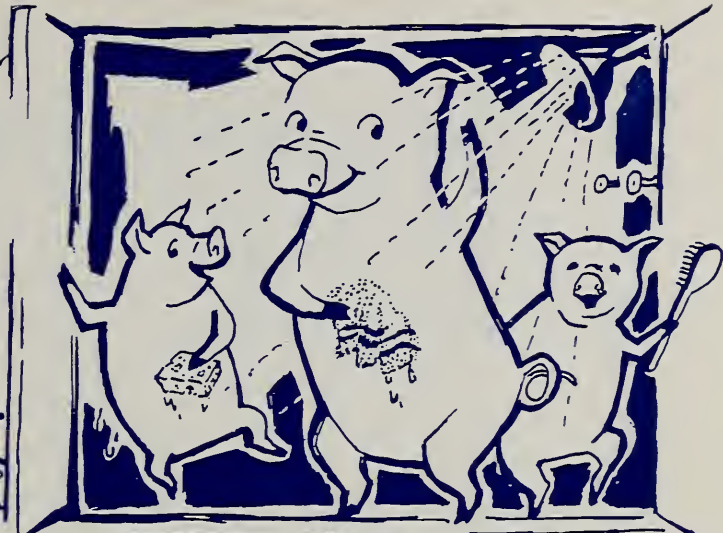
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Editor (acting), Milton Hoffman; assistant editor, Jeanne Starr Park.

Hogs take showers on way to Market

By Robert F. Guilfooy, Jr.



THESE hogs went to market . . . and stayed cool. These hogs got hot . . . and some died. The difference is a built-in shower for trailer-trucks just tested by transportation specialists of the Agricultural Marketing Service.

Preliminary research shows that death losses may be materially reduced and transit shrinkage cut by almost one-third in shipping hogs in truck trailers equipped with the new sprinkler system.

According to the 1955 edition of "Livestock Conservation Handbook," more than \$4,000,000 worth of hogs arrive dead annually at U. S. markets. Their carcasses are not fit for human consumption and therefore must be sold as waste.

In addition to this loss through death, hogs are apt to shrink in weight in transit as much as 4 percent. In a normal truckload of 22,000 pounds, this can mean 700 to 800 pounds.

These losses are particularly high in the summer or during shipment in hot temperatures. Every farmer or handler of hogs knows the animal is especially sensitive to high temperatures, mainly because it perspires only through its snout. Crowded and confined conditions in trailers are not conducive to accommodate this peculiar characteristic.

In an effort to reduce death losses and transit shrinkage of hogs during hot weather, a private hog marketing company in North Carolina installed a simple and inexpensive water sprinkler cooling system in some of its truck trailers. The system was made of 1/2-inch galvanized pipe and a length of garden hose. Total cost was about \$75 per trailer.

During the summer of 1956, transportation specialists of the Agricultural Marketing Service conducted a series of 16 tests on trailer shipments between Smithfield, N. C., and Baltimore, Md.

Robert F. Guilfooy, Jr., is a mechanical engineer in the Transportation and Facilities Branch of AMS.

Two trailers traveled together for each test trip. In one trailer, the hogs were not sprinkled, while in the other, the driver gave the hogs a 21-minute shower immediately before departure, and four 10-minute showers at four stops enroute. Sprinkling was a simple matter of hooking the garden hose to a water faucet at a truck stop and turning on the water. The pipe in the upper and lower ceilings of the double-decker trailers sprayed the water through holes drilled at 16-inch intervals.

Near the end of the tests, researchers devised an improved system of sprinkling by substituting a length of plastic lawn soaker hose for the metal pipe. The hose created a fine mist spray that was far more satisfactory than the jet streams of water from the holes in the pipe. And the cost was only \$35 per trailer as compared with the \$75 for the pipe system.

At the beginning of the tests, straw was used for bedding in the trailers, but it proved too slippery when dampened. This brought a change to sawdust, which the researchers found satisfactory.

At each stop enroute, research workers observed the condition of the hogs. Hogs that were sprinkled appeared more comfortable, were quieter, reclined more, and foamed less at the mouth.

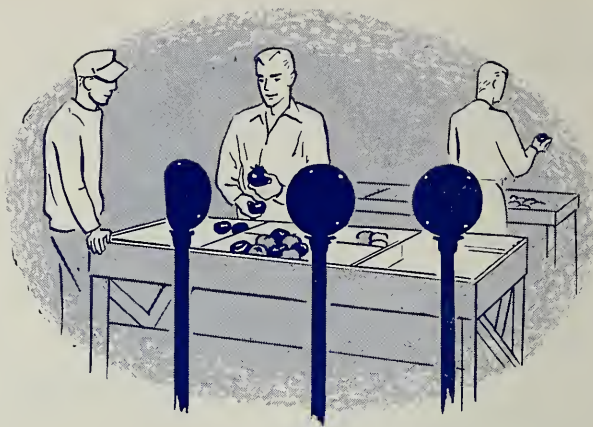
Although outside temperatures averaged only 80.4° F. during the tests—unusually cool for the period—a total of six dead hogs was found in the unsprinkled trailers. No hogs died in the sprinkled trailers. Average transit shrinkage for the unsprinkled loads, including the weight of the dead hogs, was 3.3 percent, or 724 pounds. Shrinkage of sprinkled hogs averaged 2.27 percent, or 498 pounds.

Sprinkled hogs also yielded a higher slaughtered "hot" weight, averaging nearly a half-pound per animal, or some 103 pounds per trailer load. More tests are planned for this summer to further verify the advantages of sprinkling hogs enroute.

Inspection

OF FRESH FRUITS AND VEGETABLES

By E. E. Conklin



IT MAY take more than one bad apple to spoil a carload, but it doesn't take many more to alert a fresh fruit and vegetable inspector to a low-grade packout.

Always interested in maintaining uniform quality, the Federal-State fruit and vegetable inspectors keep a watchful eye on the produce that passes through their hands. At the shipping point and at the terminal market, they watch for the bad apples that may spoil the grade.

Their job is to offer an inspection service that will help the producer and shipper get the best possible returns for their products and guarantee to the distributor that the produce he receives meets its grade designation.

In short, the fruit and vegetable inspection program makes for a more efficient buying and selling of fresh produce. The grades provide the yardstick for measuring quality; the inspectors, the interpretation of these grades.

Directed by the Fruit and Vegetable Division of Agricultural Marketing Service in Washington, D. C., the inspection service is available in all 48 States, Puerto Rico, and Hawaii. In 1956, inspection covered 1,386,663 carloads of fresh fruits and vegetables.

The inspection program itself is divided into two main categories—shipping point inspection and terminal market inspection. The bulk of inspection is conducted at shipping point as the produce is being packed for shipment to market. At its destination, inspection may be performed to determine the present grade of the shipment either for the receiver's use in handling the lot or to settle questions on quality which may arise between shipper and receiver.

Shipping point inspection is conducted jointly with the various States through cooperative agreements between the Federal Government and the State agency, usually the State department of agriculture. A care-

fully structured operation, it encompasses some 3,800 Federal-State inspectors.

Basically, the Federal Government is responsible for the technical phases of the service, such as training, licensing, supervision, and grade interpretation. State agencies handle the administrative phases—recruitment, salaries, and inspection fees.

Inspection of fresh fruits and vegetables is voluntary except in those areas where producers have adopted Federal or State marketing orders which establish minimum quality standards. In all such instances, Federal-State inspection is mandatory in order to assure that each shipment complies with the effective quality standard.

Fees are charged to the applicants. These cover the costs of inspection with State appropriations being made in some instances to cover a portion of these costs. Inspection fees paid by producers and shippers in 1956 amounted to more than \$10,000,000.

The basic core of the Federal responsibility is handled by Federal field supervisors who are assigned to each State. These men conduct the day-to-day supervision of the shipping point service in cooperation with the appropriate State officials who work closely with them. Currently, there are 388 inspectors under their jurisdiction who are designated as key men to supervise the activities of the 3,800 licensed journeymen inspectors.

These 3,800 men do the actual inspecting of the produce, many of them moving with the harvests as they are needed throughout the State or area. All State employees, they are trained, licensed, and supervised by Federal personnel.

Inspectors are specially trained for each vegetable or fruit they inspect. Often an inspector deals with only one product. Sometimes, though, where large shipments of many kinds of produce are handled, an inspector moves from product to product. For each he is carefully trained, then licensed to inspect only those for which he has demonstrated special fitness.

E. E. Conklin is chief of the Fresh Products Standardization and Inspection Branch, Fruit and Vegetable Division, AMS.

At the packing house, the fresh fruit and vegetable inspector works closely with the shipper. If a pack-out looks as though it will fall below the desired grade, the inspector warns the foreman. The line is stopped immediately; sorters in the plant are cautioned to be more discriminating; and more samples are quickly taken. If necessary, some of the produce already packed is removed, resorted, and repacked.

It's not an order that the inspector issues—simply notice that the lot is not meeting the requirements of the desired grade. It's up to the shipper whether he takes action or not. But slipshod grading practices can mean a U. S. No. 2 grade rather than a U. S. No. 1 designation. It's usually just good business to see that the packout meets the best possible grade.

Along with inspection of produce for shipment to the fresh market, Federal-State inspectors inspect raw products for processing at many canneries and frozen food plants. This phase of the inspection service has grown rapidly in the last few years. In 1956, it amounted to 462,687 carloads.

Here, the fresh fruit and vegetable inspector operates outside—rather than inside—the plant. USDA processed food inspectors check the pack as it is canned or frozen; fresh fruit and vegetable inspectors located outside the plant frequently determine the grade of the produce as it is delivered to the plant.

In this way, there is no need to dicker about the merits of a particular load. If it meets certain standards specified in the contract between producer and processor, it deserves a certain price. The processor knows it and so does the producer.

Besides the regular commercial and processing plant inspection services, shipping point inspectors also check farmers' stock peanuts and conduct continuous

inspection under consumer grades. In all, shipping point inspection during fiscal 1956 covered 1,293,391 carloads of fresh produce.

The remaining 93,000 carloads which were inspected last year came under the second type of inspection service—at terminal markets. This program is handled by Federal inspectors in 38 of the larger cities throughout the country and by Federal collaborators in about 40 smaller cities where the State wishes to provide such service to producers and market dealers.

Like their counterparts at the shipping point, these inspectors are also carefully trained. But instead of confining their inspection to one or a few fruits and vegetables, market inspectors must be qualified to check many different commodities.

Market inspectors may be called in to see if the produce has changed in condition during transit. Their reports may be used in making final settlement with shippers and for the purpose of aiding in fixing responsibility for any deterioration during transit.

In addition, receiving-market inspectors check supplies for many Government and private agencies, such as the Navy, Quartermaster Market Center, Marine Corps, Coast Guard, steamship lines, and various city and county institutions. During 1956, inspection for these agencies totaled 46,636 carlot equivalents—about half the total amount of the inspections made at terminal markets.

Charges for all inspection services at terminal markets are borne by the applicant for whom the inspection is made. Receivers have contracted to underwrite the cost of the service in several markets where the volume is insufficient to meet the costs at the established fees per carload. Total collections in Federal markets during 1956 amounted to \$854,000.

At the shipping point, inspection of fresh fruits and vegetables is handled by 3,800 Federal-State employees. Here, an inspector looks over a batch of green peppers.





Poly Liners FOR COLD STORAGE OF STRAWBERRY PLANTS

by J. T. Worthington and D. H. Scott

POLYETHYLENE film has again proved its versatility. It can be used with considerable success in the commercial storage of dormant strawberry plants.

Not only does it keep the plants well, but it can almost double storage life. The plants come out of storage with green turgid leaves and bright succulent roots. Field survival is 18 percent higher than for plants packed in the regularly-used sphagnum moss.

That's not all. The cost of packing in polyethylene is less than for sphagnum. Also, the weight of polyethylene is much less than that of wet moss, which can result in a saving when transportation is involved.

Work with polyethylene liners for storing strawberry plants has been carried out jointly by Agricultural Marketing and Agricultural Research Services at the Beltsville, Md., laboratories. Cooperating nurserymen held the plants under actual commercial storage.

The testing program began in December 1955, with plants coming out of storage November 1, 1956. Since not all plants were packed at the same time, the storage period thus ranged from 8 to 10 months.

Three kinds of packing methods were compared: (1)

wirebound crates with plants packed in moist sphagnum moss; (2) crates lined with 2-mil polyethylene, neither perforated nor sealed, but simply overlapped at time of packing; and (3) crates lined with polyethylene but with some sphagnum among the plants.

To assure a representative sample, researchers packed nine different varieties of strawberry plants under each of the storage methods. All crates contained the same number of plants of each variety.

After 8 to 10 months' storage at 30° F., plants stored in poly-lined crates, both with and without sphagnum, had much better leaf and root appearance than those stored without liners.

No decay was present in any of the plants stored in polyethylene liners without moss.

In fact, use of sphagnum with liners actually caused decay in one variety. Excessive moisture in the bottom layer of moss probably favored decay development.

On the other hand, plants packed in sphagnum alone were severely dried out, particularly at the top, sides, and bottom of the crates. Leaves were brown and yellow; the plants themselves appeared nearly dead.

Actually, the plants packed in sphagnum were fully dormant. But still their rate of survival was not as good as that of the greener poly-packed plants. Only 74 percent survived a 1-month trial growing period.

Ninety percent of the plants packed in polyethylene-lined crates with moss survived, and 92 percent of those in the poly-lined crates without moss.

The average percentage of vigorous plants of all varieties after 8 to 10 months' storage was 58 for poly-lined crates without moss, 41 for poly-lined crates with moss, and 27 for unlined crates with moss.

Although these percentages reflect only the findings of a preliminary, 1-year study, many East Coast nurserymen have already adopted the poly-pack storage method. They find the cost low—10 cents per crate less than for sphagnum. They like the convenience of being able to break into a poly-lined bag for small orders without disturbing the whole pack.

They also notice a definite reduction in the rate at which their refrigerator coils need defrosting when poly liners are used. Both sphagnum and plants contain considerable moisture which, when in the storage atmosphere, freezes on the coils. Defrosting is not only expensive, but interrupts proper storage conditions.

Researchers, however, have a few words of warning for those interested in storing dormant strawberry plants in polyethylene liners. Plants should be dormant, free of soil and not excessively moist at time of packing, and they should be immediately placed in cold storage. Temperatures above 32° F. should be avoided.

Both the authors are horticulturists with the U. S. Department of Agriculture. J. T. Worthington is with the Biological Sciences Branch, AMS; D. H. Scott with the Horticultural Crops Research Branch, ARS.



A NEW COLD CURTAIN FOR REFRIGERATED TRUCKS . . .

By Robert F. Guilfooy, Jr.

HOW do you keep a refrigerated truck from warming up during summer deliveries?

Transportation specialists of the Marketing Research Division, AMS, have developed a new plastic curtain which, installed inside the rear-door opening, helps keep temperatures down. Trucks equipped with the new curtain average several degrees colder inside and do a better job of controlling frozen product temperatures.

This is not the first door curtain that has been tried out. For many years, truck owners and operators have experimented with various types of curtains. The problem has been to keep the frost from melting off the "cold plates" of the trucks and causing soggy packages and ruined labels.

The trouble largely results from the necessary opening and closing of the rear door during loading and unloading in hot weather. Even when drivers are careful to close the door immediately after removing each order, they often have the door open as much as 2 hours out of an 8-hour delivery day.

To maintain high quality in frozen foods, the truck temperature should be kept at zero degrees or lower. Fluctuations in air temperature also mean higher refrigeration costs.

Most of the previously tried canvas curtains have not been satisfactory on at least three counts: They did not permit entry of light inside the truck. They became wet and annoying to the driver during deliveries. And the wet canvas froze stiff during the night chilling process, making it hard for the driver to handle the curtain the next day.

Following a preliminary study of the problem in the summer of 1955, a number of experimental cur-

tains were tested. Researchers sought the right combination of materials and design that would offer the least interference with the driver, yet be durable enough to withstand the stresses and strains of daily use.

These early tests led to the "window" type, 2-panel curtain made of 0.0075-inch thick clear polyester film, framed on all edges with 16-ounce neoprene-coated nylon to prevent tearing and lend stability.

Each panel is suspended at the top of the doorway with three double-eye harness snaps which provide a strong yet flexible support that allows the curtain to open and close easily. To prevent billowing and flapping as the truck door is opened and closed, researchers put two pounds of lead shot in the bottom hem of each panel.

The new curtain was tested in actual commercial operation by private companies in Washington, D. C., and Baltimore, Md. Most of the drivers said they liked it, and cooperating truck owners are enthusiastic.

They see four major advantages in the new curtain:

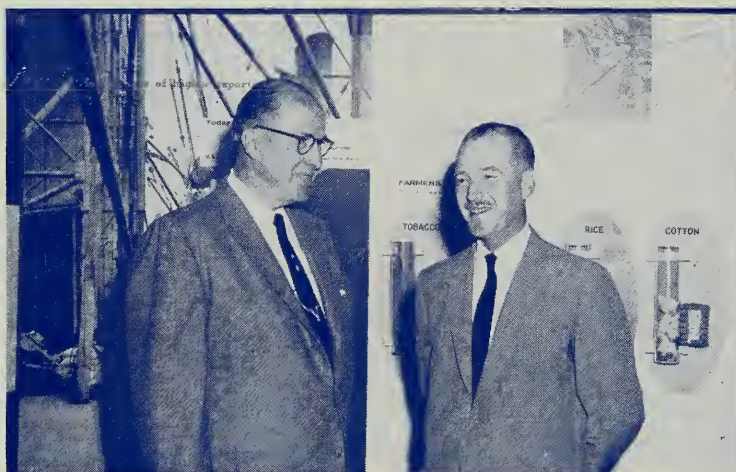
1. It is of definite help in maintaining lower product and air temperatures in refrigerated local delivery trucks during summer months.
2. It allows better lighting inside the truck with the door open than when using an artificial light with the rear door partially closed.
3. It is relatively inexpensive and durable, and installation is easy. It is readily removed during the winter months.

4. Elimination of dripping inside trucks more than offsets the minor inconvenience of the curtain.

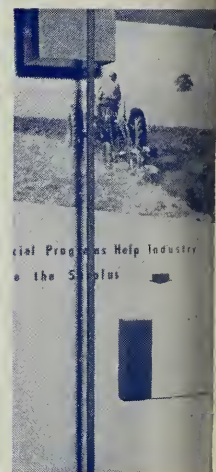
So far, the curtain has been tried out only on frozen food and meat trucks. But it may also be of benefit when used on refrigerated trucks that deliver milk, ice cream, produce, and other perishable items.

The author is a mechanical engineer in the Transportation and Facilities Branch, AMS.

MOVING THE SURPLUS AND EXPANDING MARKETS



Secretary of Agriculture Benson and William McCahon of the Advisory Committee on Voluntary Foreign Aid, take part in opening of USDA exhibit on moving surpluses, expanding foreign markets.



Assistant Secretary of Agriculture, discuss with representatives of the farm production

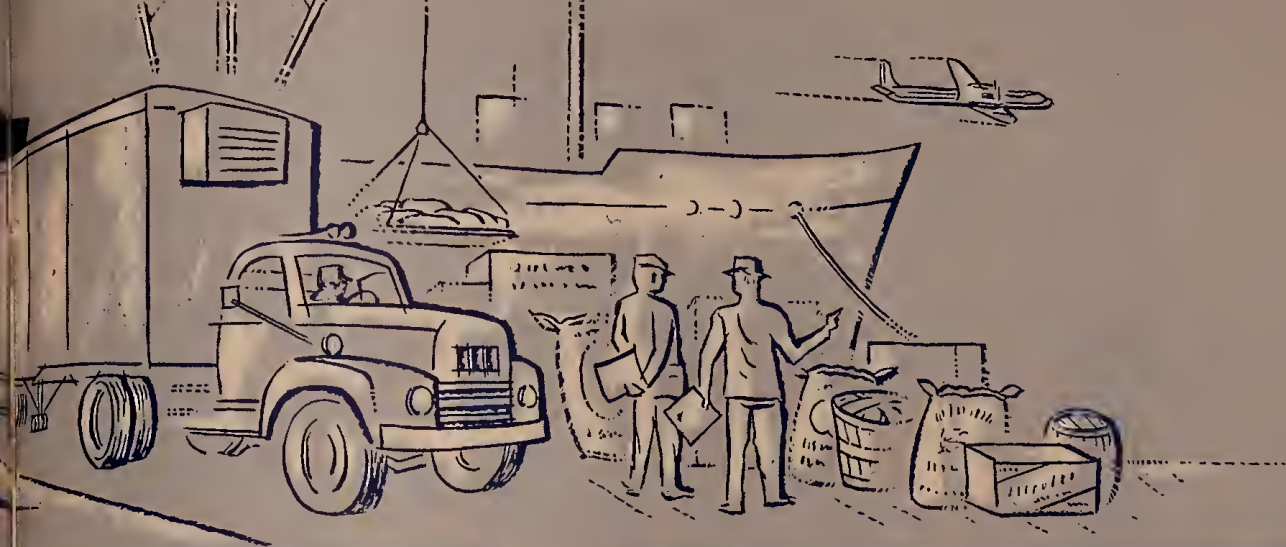


Roy W. Lennartson, Deputy Administrator of AMS, views exhibit of surplus foods. Lennartson recently won a distinguished service award for his work in helping reduce Government farm surpluses.



Representatives examine samples of surplus foods abroad. S.

MOVING THE SURPLUS AND EXPANDING MARKETS



Secretary of Agriculture Benson and William McCahon of the Advisory Committee on Voluntary Foreign Aid, take part in opening of USDA exhibit on moving surpluses, expanding foreign markets.



Assistant Secretary Marvin McLain and Congressman Henry Dixon, Utah, discuss exhibit in which pingpong balls represent farm production and depict its flow through marketing channels.



Department aid to industry's sales efforts is shown in exhibit on plentiful foods program which helps move America's abundance from the farm to consumers through established trade channels.



Roy W. Lennartson, Deputy Administrator of AMS, views exhibit of surplus foods. Lennartson recently won a distinguished service award for his work in helping reduce Government farm surpluses.



Representatives of private service agencies and USDA officials examine samples of surplus foods donated for use by needy persons abroad. Since 1950, 84 countries have received such aid.



Moses Leavitt, left, Chairman of American Council of Voluntary Agencies for Foreign Service, presents Secretary Benson with a pictorial report on how surplus foods aid needy persons abroad.

For his work on maturity standards and measurement of Florida citrus fruits, Dr. Paul L. Harding received a Certificate of Merit from USDA. His research has led to the improved quality and marketing of Florida fruit.



Florida's Fresh Citrus Standards

By Harold T. Cook

FLORIDA'S citrus growers and shippers know at first hand the value of quality improvement research. The addition of tangelos to the Florida Citrus Code in 1955 completed another chapter in the progress of that State's citrus standards.

The tangelo is a relatively new citrus fruit developed by USDA plant breeders several years ago by crossing the tangerine with the grapefruit. The fruit has recently gained popularity in Florida and shows promise throughout the country.

The 1949 Florida Citrus Code and the maturity research that made much of it possible is a story that centers around the work of Dr. Paul L. Harding and his coworkers at the Orlando field station. The research at Orlando and Miami is a part of the research program of the Agricultural Marketing Service, USDA. Other agencies assisting in the research include the Florida Citrus Commission and the Florida Citrus Experiment Station. Full cooperation was given by the Fruit and Vegetable Division, AMS.

When Dr. Harding and his staff began their work at Orlando in 1935, the Florida citrus industry faced

many serious problems. Quality of the fruit shipped from the State varied widely; marketing was sporadic and disorderly; prices were low and unstable, and consumer confidence in the products lacking.

Dr. Harding believed the industry's problem centered around quality standards and consumer confidence in Florida citrus products.

With this in mind, scientists at Orlando began studying the seasonal changes in Florida oranges, grapefruit, tangerines, and Temple oranges. Later on, limes, avocados, and mangos were added to the list. The goal was to correlate taste with fundamental chemical and physical properties of the fruit.

The underlying theory was that consumer approval is based on taste. Dr. Harding believed the industry placed too much emphasis on the attractive appearance of the fruit and not enough on its palatability.

Unlike most noncitrus fruits, such as apples, peaches, and pears, citrus fruits do not ripen after removal from the tree. Once a citrus fruit is picked, nothing can be done to improve its flavor.

The immediate goal of the researchers then was to find out in a scientific way when a citrus fruit was fit to eat. They realized that the data would have

Harold T. Cook is Assistant Chief of the Biological Sciences Branch of Agricultural Marketing Service.

to include all varieties grown in the State, and their edibility at any week or month during the marketing season. It would also have to take into consideration the various types of rootstock.

But before they could correlate taste with chemical properties, the researchers had to find out what consumers wanted in their citrus products.

It was an ambitious project, and a lot of tasters were needed to aid in the research. Dr. Harding recruited tasters from his own staff and from personnel of the Bureau of Entomology located next door. They numbered about 45 in all, and most of them soon became expert citrus tasters. Consumers from outside were also pressed into service, including high school chemistry students.

A simple numerical judging system was devised to indicate whether the fruit was excellent, good, fair, or unacceptable. A value of 70 was designated as minimum acceptance.

Sample fruit was obtained from more than 40 groves scattered throughout the State's citrus belt. The sampling started in September and continued through May for about four years. Wedges of sample fruit were placed in separate piles on long tables. Tasters had no way of knowing one variety from another. They were told not to make gestures while sampling the slices so as not to influence fellow tasters.

And while the tasting was going on, the scientists were making chemical tests on the same samples. It wasn't long before some basic conclusions could be drawn. After testing some 13,000 individual fruits, Dr. Harding stated:

"The present minimum State standards do not measure up to what the consumer desires in citrus fruit. Invariably, the consumer wants a riper, more mature fruit."

In the chemical analyses, Dr. Harding and his associates found that the palatability of the fruit was closely correlated with total sugar (soluble solids) content and the ratio of sugar to citric acid.

Throughout the research, the scientists were interested not only in taste standards, but also in nutritional values. Citrus fruits are important in the human diet, since their acids result in alkaline reactions in the digestive process, and because they are rich in minerals and important vitamins.

By 1948, after 13 years of research, Dr. Harding was ready to assist the Florida citrus industry in bringing the State's citrus code up to date. Although the demand for modernization of the code was not unanimous and, in fact, became a controversial issue in Florida political circles, the research findings be-

came the foundation for the Florida Citrus Code adopted by the State Legislature in 1949.

Maturity standards in the new Code provided for higher minimum levels of sugar solids in each of the fruits and also minimum ratios of sugar to acid, depending upon the date of harvest. This ratio was written as a sliding scale, permitting a slight increase in acid content as sugar content increased later in the season.

In addition to these two important criteria, the law provided for minimum volumes of juice per box and minimum exterior color requirements.

In actual operation, the Code makes it possible to maintain a uniformly desirable quality for Florida citrus products. Administered by the Florida Citrus Commission and the Florida State department of agriculture, citrus fruit cannot be shipped or marketed unless it meets the minimum maturity standards outlined in the Code. These maturity standards must be met before harvest and are later checked and certified by USDA inspectors.

The Commission and State department of agriculture also develop and administer grading, packaging, and labeling rules, and correlate citrus research and promotion in the State. This work is financed through fees charged to producers or shippers.

Wide acceptance of the new maturity standards by all segments of the Florida citrus industry has resulted in minor improvements in the Code and the addition of other fruits to the list since 1949. While the maturity standards are still far from perfect, they do represent an important step forward for the Florida citrus industry.

Leaders of the Florida citrus industry point to at least four major developments resulting from the improved maturity standards, coupled with the work of the Federal Marketing Agreement Program.

1. Consumer confidence in Florida's citrus products has reached new heights.
2. Grower prices are more stable and dependable.
3. Marketing of the citrus crop is more orderly.
4. Consumers are buying a more nutritious product at higher levels of consumption than ever before.

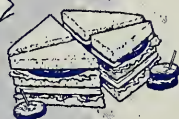
For Dr. Harding, official recognition of his contribution to this progress has come in many forms and from many places. Last December, he was awarded a Certificate of Merit by the Agricultural Marketing Service "for sustained superior performance in the conduct of valuable research studies on maturity standards and measurements of Florida citrus . . . which have led to improved quality and marketing of Florida fruit."

PROMOTION MONTHS...

Add Zip to Merchandising



Let's have a Picnic!



September is Better Breakfast Month

FROM the first of January till the last of December, the calendars of American marketing are circled with some 313 special days, weeks, and months—the mechanics of modern merchandising.

On the lighter side, those 313 include a National Fun Day to remind you not to take yourself too seriously and a National Mother-in-Law Day with the same objective. In the “week” category, there’s National Do-It-Yourself Week and Save the Horses Week.

And this is the time of year that starts a series of “months” that have real importance to agricultural marketing:

July is Picnic Month.

August is National Sandwich Month.

September is National Better Breakfast Month.

All three are sponsored by top-notch industry promotional organizations. All three work on the same principle of providing a “bright idea” promotion, thereby giving merchandisers the opportunity to “tie in” many other related items.

The sponsors of these umbrella-type promotions enlist for them the full support of the food distributive trades and of information media. To help gain that support, they provide a full line of point-of-purchase materials—posters, wire-hangers, menus, and shelf talkers. And they back up their campaigns with a full-scale publicity campaign in which the related items are given a good play.

This merchandising and publicity sets the scene for effective tie-ins by the marketers of other agricultural products that go into the making of picnics, sandwiches, and better breakfasts. More than a hundred distributive groups for meats and poultry, dairy products, fruits and vegetables, and related farm products tie in to the promotion, adding variety and impact to the sales efforts for the grains and cereals.

For this reason, the U. S. Department of Agriculture gives its full support to these campaigns through its Plentiful Foods Program—a program that helps to move food abundance to consumers through the established channels of trade.

SPECIAL MILK PROGRAM IN LOS ANGELES

By Kenneth Anderson

LOS Angeles school children have shown what the Special Milk Program can do for milk consumption in a city's schools.

In the fall of 1955, when the Los Angeles school system began the program, the daily per pupil milk consumption in the schools amounted to this: In the elementary schools—2.9 ounces or about one-half glass; junior high schools—1.4 ounces; senior high schools—1.4 ounces; average for all schools—2.3 ounces.

At the close of the 1955-56 school year, with the Special Milk Program in operation for one full school year, average daily consumption jumped to this: Elementary schools—4.8 ounces, or well over a half a glass per day; junior high schools—4.8 ounces; senior high schools—4.1 ounces; all schools—4.7 ounces.

Researchers of the Marketing Research Division, AMS, point to several factors that had a bearing on the increased consumption. For one thing, the size of container used in the schools was changed from the half pint to one-third quart.

Through the reimbursement features of the program, the price was reduced in grade schools from about 8 cents for one-third quart to 5 cents. In high schools, it was reduced from about 11 to 5 cents.

An analysis of the effect of family income on increased milk consumption in the schools showed that increases were greatest among children attending elementary and junior high schools located in low-income districts. Among senior high pupils, the largest increases showed up in middle-income areas. Average family incomes of less than \$3,000 were classed as

low; \$3,000 to \$4,000 as middle; \$4,000 and over as high-income level.

Researchers anticipated that children from low-income families would increase their consumption of milk the most. This was true in the case of elementary and junior high schools; but in the senior high schools, where milk consumption was highest in the low-income group before adoption of the program, the biggest increases came from the middle-income group.

Average educational level of adults in the school districts had little or no effect on consumption in elementary schools; but it did have a noticeable influence in junior high schools. Pupils in low educational level districts increased their milk consumption by some 357 percent, while those in high educational areas increased consumption 194 percent. Since pupils in the high educational areas were consuming more milk before the program began, the greater increase in the low educational areas narrowed the consumption gap between the two groups.

By grades, children in grades 7 to 12 showed the biggest consumption increases. Up to the 6th grade, the increase averaged more than 150 percent. Before the program, average consumption by pupils in grades 7 to 12 was about half that of other grades. This means that the Special Program brought the consumption of this group closer to the level of other grades.

When elementary schools made Special Milk available at noon and one additional time, increases more than doubled that of schools offering milk only during noon hours. But when it was made available two times in addition to the noon hour, consumption did not increase any more than with one additional serving.

Kenneth Anderson is an agricultural economist, Market Development Branch, AMS.



On the average, pupils in Los Angeles schools doubled milk consumption under Special Program.



RECEIPT

LICENSED AND BONDED UNDER THE UNITED STATES WAREHOUSE ACT
ORIGINAL NEGOTIABLE
WAREHOUSE RECEIPT
FOR GRAIN

RECEIVED

**COMMODITIES STORED IN
LICENSED WAREHOUSES
LIKE MONEY IN THE BANK**

SPECIMEN

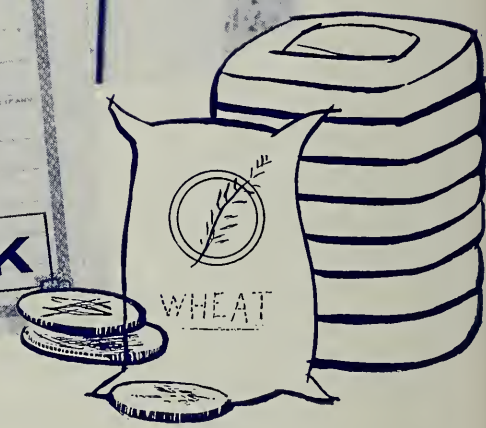
THE UNDERSIGNED WAREHOUSEMAN CLAIMS A LIEN ON SAID GRAIN FOR CHARGES AND LIABILITIES AS FOLLOWS:

NO BUS _____
NO SACKS _____
LBS NET _____
INCLUDING SOCRAGE IF ANY _____
KIND _____
GRADE _____
CONDITION _____

ISSUED BY _____

THE SIGNATURE OF A FREQUENT RECEIPT OR LEGAL CONVERSION OR REMOVAL OF THE GOODS REPRESENTED BY THIS RECEIPT IS PUNISHABLE BY A \$5,000 FINE OR IMPRISONMENT FOR TEN YEARS OR BOTH.

ACCORDING TO THE OFFICIAL GRAIN STANDARDS OF THE UNITED STATES



By Carl J. Miller

COMMODITIES stored in Federally licensed warehouses are as good as money in the bank. In fact, for the marketing man who places his goods in storage, they become exactly that.

His warehouse receipts, representing his stored products, can be bought and sold almost as readily as the products themselves. They may be pledged for loans or used to satisfy futures contracts.

Their dependability is determined by the existence of the products they represent, the ability of the issuing warehouseman to make good his promise of delivery, and the validity of the bond and insurance coverage.

When a warehouse is licensed under the U. S. ware-

house Act, this dependability is assured. The Special Services Division of Agricultural Marketing Service sees to it that each Federally licensed warehouse meets its obligations in terms of physical inventory, warehouse structure, and financial condition.

Since its inception some 40 years ago, the U. S. Warehouse Act has pursued a dual function: (1) to protect the owners of products stored in public warehouses, and (2) to preserve and maintain the integrity of the receipts issued for these products.

Purely a voluntary service, inspection and licensing under the Warehouse Act is not required. It is provided only to those who request it and who can qualify.

Many warehousemen feel it's an advantage to have their warehouse Federally inspected and licensed. It's

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strong evidence that theirs is an orderly business and a good place to store agricultural products.

Warehouses subscribing to U. S. Government inspection and licensing stretch all across the country—from coast to coast, from north to south. Over 1,600 in all, they are found in 37 States.

Although originally designed for cotton warehouses, the licensing service now covers warehouses handling almost all staple agricultural products. It includes more than 1,000 grain warehouses filled with wheat, oats, corn, rice, and so forth. It applies to over 500 cotton warehouses.

In addition, there are Federally licensed warehouses storing dry beans, wool, tobacco, dried fruits, canned foods, and a few other products.

Not only is the number of warehouses under the Act impressive, but so is their total storage capacity. Grain warehouses under Federal inspection can hold almost 750 million bushels; cotton warehouses can accommodate 13.5 million bales. This is in addition to smaller amounts of other agricultural products also under Federal storage.

All told, Federally licensed warehouses can store as much as \$3,500,000,000 to \$4,000,000,000 worth of products at any one time. And, in recent years, they have been well filled.

Federal inspectors are kept busy making the rounds—inspecting facilities and products, personnel and policy.

In making a warehouse examination, the inspector audits the records to establish the warehouseman's obligations in terms of quantity, identity, and, in some cases, the grade of products which should be on hand to satisfy depositors.

He then makes an inventory and checks it against his obligations. He observes the physical features of the warehouse to be sure they afford suitable storage. And he examines insurance policies to determine adequate coverage.

Management and operating personnel are appraised for competency in their fields of responsibility. The warehouseman's financial condition must meet certain requirements, and a surety bond furnished to further guarantee the warehouseman's faithful performance of duties and obligations under the Act.

If a licensed warehouseman fails to meet these requirements of the Warehouse Act, he may be penalized. Penalties range from temporary suspension of a license to fines and/or imprisonment for provable offenses such as issuance of a false or fraudulent warehouse receipt, illegal removal of stored goods, or false, fraudulent weighing or grading of products.

The U. S. Warehouse Act was passed in 1916 in an effort to make credit more readily available for financing agricultural products under storage. At the beginning of the first World War, when cotton exchanges in New York, New Orleans, and Liverpool were closed, cotton prices fell to 5 cents a pound. Farmers were forced to sell at harvest time, the period of greatest supply. Loans on stored products were not available outside the local community.

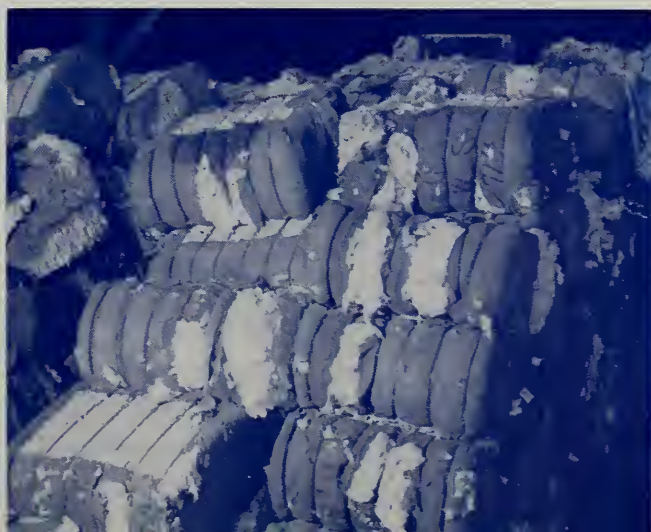
This crisis in agricultural credit prompted Congress to pass the U. S. Warehouse Act. As originally proposed, it authorized the Secretary of Agriculture to license public cotton warehouses, place them under bond, and supervise their activities through periodic examination. Before passage, the measure was enlarged to include grain, tobacco, wool, and flaxseed. In 1923 the law was amended to make this kind of help available to producers and traders of nearly all staple agricultural commodities.

With assurance of adequate supervision under the Warehouse Act, the doors of credit began to open, especially in financial centers far distant from the borrower or the warehouse in which his products were stored. Through the years, the prestige of warehouse receipts as instruments of credit increased.

Bonding companies reduced the premium rates on Federal warehouse surety bonds, and insurance rating bureaus in many States extended an insurance premium credit to policies covering Federally licensed and bonded warehouses and their contents.

This same confidence in the Warehouse Act continues today. For, actually, the Act has not changed very much in its 40-year existence. Its functions are the same now as in the beginning: To provide safe storage and maintain stocks in good condition for the best interests of the producer and the wholesaler.

Cotton is one of the main products stored under the U. S. Warehouse Act. Licensed warehouses can house 13.5 million bales.



OFFICIAL BUSINESS

NAMO (Atlantic States Division)

POULTRY and eggs, fruits and vegetables—these were the two main topics discussed at the 1957 annual meeting of the Atlantic States Division of the National Association of Marketing Officials held April 30 and May 1 in Washington, D. C.

Speakers from State marketing agencies, the U. S. Department of Agriculture, and private industry discussed at length their relationships in the field of marketing. They talked over integration in the poultry industry, mandatory poultry inspection, and egg market news reporting. They tackled personnel problems in the fruit and vegetable inspection program and discussed what's happening to terminal markets.

From USDA came the story of the soil bank program and a review of the marketing service program under the Agricultural Marketing Act of 1946.

At the closing session, the group elected Warren W. Oley of New Jersey as chairman and John Winfield of North Carolina, secretary.

In discussing "Mandatory Poultry Inspection," Dr. Alfred Van Wagenen, managing director of the North-eastern Poultry Producers Council, said "the industry as a whole is behind some type of mandatory inspection. It is not a question of whether mandatory inspection is needed, but more who should control it and whether the details be included in the law."

Robert J. Krueger of the Lindsey-Robinson Company, Roanoke, Va., spoke on integration in the broiler industry. He listed the causes as three-fold: Instability of production, unstable prices, and high profits. If these remain unchanged, he said, integration will remain as strong as it is today—if not stronger.

But, Mr. Krueger feels that production, prices, and profits will stabilize, and we are heading for less integration in the poultry business.

Hermon I. Miller, Director of the Poultry Division of AMS, summed up the integration story.

Opening the second day's session, William C. Crow, Chief of the Transportation and Facilities Branch of AMS, told "What's Happening to Terminal Markets."

"The terminal market is not a thing of the past," he said. "Markets are merely changing—in size and location, and in the type of operators in them."

The need, he pointed out, is for a one-stop market with a complete line of wholesale distribution centers.

Personnel problems in the fruit and vegetable inspection program were discussed by E. E. Conklin, Chief, Fresh Products Standardization and Inspection Branch, Fruit and Vegetable Division. He explained the main difficulty was in paying inspectors a living wage.

Mr. Conklin said a committee has recommended travel allowances between jobs and within States, a 50-hour 6-day work week, overtime at the rate of \$2 an hour, a minimum salary for seasonal, temporary men.

George Grange, Deputy Director of the Fruit and Vegetable Division, AMS, stressed the need for "a hard core of professional traveling inspectors who function on a full-time basis the year round."

Discussing "Opportunities in Marketing Through the Frozen Food Industry," Francis A. Raymaley, Seabrook Farms Company, Bridgeton, N. J., pointed out that "the frozen food industry is out of its kneepants. It's now a \$2,000,000,000 industry."

In about 4 to 6 years, Mr. Raymaley expects frozen food departments in supermarkets to rank next to meat departments as one of the leading income earners.

Other principal speakers were Howard Doggett, Director of the Soil Bank Division, USDA; J. J. Dimond, Chief of the Regulatory Branch, Fruit and Vegetable Division, AMS; E. H. Hansen, Supervisor of the Eastern Area Dairy and Poultry News, AMS; and Leighton J. Foster, AMS. Roy W. Lennartson, Deputy Administrator for Marketing Services, AMS, welcomed the group to Washington.